UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,040	06/22/2005	Patrick Jelf Crowley	70190	8709

26748 7590 08/09/2007

SYNGENTA CROP PROTECTION , INC.
PATENT AND TRADEMARK DEPARTMENT
410 SWING ROAD
GREENSBORO, NC 27409

EXAMINER	
JAISLE, CECILIA M	
ART UNIT	**PAPER NUMBER**
1624	

MAIL DATE	DELIVERY MODE
08/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/540,040	CROWLEY ET AL.	
	Examiner	Art Unit	
	Cecilia M. Jaisle	1624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) *10-13* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED OFFICE ACTION

Restriction

Applicants' election of Group I, claims 1-9 with traverse is acknowledge. Claims 10-13 remain withdrawn.

Claim Rejection - 35 U.S.C. 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1,148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-9 are again rejected under 35 U.S.C. 103(a) over Bratz, which shows (Table A, col. 17, first 3 formulae on the left, and compounds with the R3, R4 and R5 substituents in cols. 25-27, in which R5 is amino, *inter alia*) various 7-amino-pyrido[2,3-d]pyrimidines as herbicides. The claimed compounds fall under the generic formula I of Bratz (col. 1, line 6-col. 2, line 39, *inter alia*). It would have been within the skill of the ordinary chemist at the time this invention was made to make these 7-amino-pyrido[2,3-d]pyrimidines compounds of Table A according to the teachings of Bratz, motivated by the expectation that these compounds would be useful as herbicides.

Compounds of the present claims that are methyl homologs of Bratz would have been obvious to one having ordinary skill in the art at the time of the present invention. One having ordinary skill in the art would have been motivated to prepare the instantly claimed compounds that are methyl homologs of the Bratz compounds, because such structurally related compounds are expected to possess similar properties. It has been held that compounds that are structurally homologous to prior art compounds are *prima facie* obvious, absent a showing of unexpected results.

> An obviousness rejection based on similarity in chemical structure and function entails the motivation of one skilled in the art to make a claimed compound, in the expectation that compounds similar in structure will have similar properties.

In re Payne, 203 USPQ 245, 254 (CCPA 1979). See also *In re Papesch*, 137 USPQ 43 (CCPA 1963) and *In re Dillon*, 16 USPQ2d 1897 (Fed.Cir. 1991) (discussed in MPEP § 2144) for an extensive case law review pertaining to obviousness based on close structural chemical compound similarity. See also MPEP § 2144.08, ¶ II.A.4(c). Compounds that are homologs (compounds differing by the successive addition of the same chemical group, e.g., by CH3- groups), as here, are generally of sufficiently close structural similarity that there is a presumed expectation that such compounds possess similar properties. *In re Wilder*, 195 USPQ 426 (CCPA 1977). Bratz establishes a *prima facie* case of obviousness for the presently claimed compounds.

Response to Jul. 11, 2007 Remarks

Applicants comment, "arriving at a compound intended to 'combat fungi, especially fungal infections of plants' is contrary to the purpose of the Bratz et al. disclosure. (Applicants' specification, pg. 1, lns, 4-5). Applicants mistake the point of the rejection. It is true that the purpose of the Bratz disclosure is to provide herbicides. And, methyl homologs of the Bratz disclosure, such as those recited by the present claims, are obvious over Bratz *as herbicides*. Compounds that are homologs (compounds differing by the successive addition of the same chemical group, e.g., by CH3- groups), as here, are generally of sufficiently close structural similarity that there is

a presumed expectation that such compounds possess properties that are similar to the properties *of the prior art compounds*.

Applicants also quote from MPEP Section 2143.01 V: "If proposed modification would render the prior art invention being modified unsatisfactory *for its intended purpose*, then there is no suggestion or motivation to make the proposed modification." The intended purpose of the Bratz compounds is their herbicidal utility. Because the presently claimed compounds are methyl homologs of the Bratz compounds, there is a presumed expectation that they possess properties that are similar to the properties of the Bratz compounds. Nothing on this record refutes that validly presumed expectation. Absent presentation of verifiable evidence establishing the unobviousness of the claimed compounds over, this rejection is deemed proper and is made Final.

Claims 1-9 are again rejected under 35 U.S.C. 103(a) as being unpatentable over Blankley II, which shows (Table, cols. 7-8, Examples 1,2, 4-7 and 18-32, *inter alia*) various 7-amino-pyrido[2,3-d]pyrimidines as antihypertensives. The claimed compounds fall under the structural formula of Blankley II (col. 1, lines 40-col. 2, line 4, *inter alia*). It would have been within the ordinary chemist's skill when this invention was made to make the claimed 7-amino-pyrido[2,3-d]pyrimidines compounds according to the teachings of Blankley II, motivated by the expectation that these compounds would be useful as antihypertensives. The discussion *supra* of the obviousness of alkyl homologs is repeated here as equally pertinent. Blankley II establishes a *prima facie* case of obviousness for the presently claimed compounds. This rejection is made Final.

Response to Jul. 11, 2007 Remarks

Applicants comment, "As disclosed in Blankley et al. R3 is H2N- ... Furthermore, the Blankley et al. reference teaches compounds useful for the treatment of hypertension ..." The purpose of the Blankley disclosure is to provide antihypotensive agents. And, methyl homologs of the Blankley disclosure, such as those recited by the present claims, are obvious over Blankley *as antihypotensive agents*. Compounds that are homologs (compounds differing by the successive addition of the same chemical group, e.g., by CH3- groups), as here, are generally of sufficiently close structural similarity that there is a presumed expectation that such compounds possess properties that are similar to the properties *of the prior art compounds*.

The intended purpose of the Blankley compounds is their antihypotensive utility. Because the presently claimed compounds are methyl homologs of the Blankley compounds, there is a presumed expectation that they possess properties that are similar to the properties of the Blankley compounds. Nothing on this record refutes that validly presumed expectation. Absent presentation of verifiable evidence establishing the unobviousness of the claimed compounds over Blankley, this rejection is proper.

Claims 1-3, 5-7 and 9 are again rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett, describing Table III 6-arylpyrido[2,3-d]pyrimidin-7-amines, see Nos. 9-48 and 50-56. It would have been within the ordinary chemist's skill when this invention was made to make the claimed 7-amino-pyrido[2,3-d]pyrimidines

compounds according to the teachings of Bennett, because the claims encompass alkyl homologs of Bennett. The skill of the ordinary chemist would have been motivated to prepare alkyl homologs of Bennett by the expectation that these compounds would be useful as antihypertensives. The discussion *supra* of the obviousness of alkyl homologs is repeated here as equally pertinent. In addition, Bennett suggests the equivalency of chloro, iodo, bromo and flouro substituted phenyl substituents in the 6-position of the pyrido[2,3-d]pyrimidines; see compounds 10-12, 16-18, 22, 24-28, 33-41,48, 50, 51,53, 54 and 56, *inter alia*. Therefore, Bennett suggests the specific halo-phenyl substituted pyrido[2,3-d]pyrimidines of claim 7. Bennett establishes a *prima facie* case of obviousness for the presently claimed compounds. This rejection is made Final.

Response to Jul. 11, 2007 Remarks

Applicants comment:

> In the Office Action, the Examiner notes for Applicants' attention Table III, Nos. 9-48 and 50-56 of the [Bennett] reference. However, as noted above, each of these compounds has NH2 present at the "R" position of the claimed invention. Accordingly, it is submitted that one of ordinary skill in the art would not modify this substituent to arrive at Applicants' claimed invention because the Bennett formula specifically requires NH2 at this position. As such, Applicants respectfully submit that claims 1-3, 5-7 and 9 are not rendered obvious by this [Bennett] disclosure.

However, as noted *supra* regarding the other 35 USC 103 rejections, methyl homologs of the Bennett compounds, such as those recited by the present claims, are obvious over Bennett as antihypertensives. Compounds that are homologs (compounds differing by the successive addition of the same chemical group, e.g., by CH3- groups) are generally of sufficiently close structural similarity that the presumed

expectation is that such compounds possess properties similar to the properties of the prior art compounds. Absent presentation of verifiable evidence establishing the unobviousness of the claimed compounds over Bennett, this rejection is proper.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cecilia M. Jaisle, J.D. whose telephone number is 571-272-9931. The examiner can normally be reached on Monday through Friday; 8:30 am through 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson can be reached on 571-272-0661. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Cecilia M. Jaisle, J.D.

Supervisory Patent Examiner
Technology Center 1600